REMARKS

In the Office Action mailed April 17, 2006, the Examiner noted that claims 1-8 were pending, and rejected claims 1-8. Claims 1-3 and 5-8 have been amended, new claims 9 and 10 have been added and, thus, in view of the forgoing claims 1-10 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections are traversed below.

In the Action the Examiner rejected claims 1-8 for obviousness double patenting over US patent 6,359,873. This rejection is respectfully traversed The Examiner is requested to note that the current application is a divisional of US patent 6,359,873 and claims 1-8 as originally filed in this application are the claims not elected in response to the restriction requirement in the parent case. It submitted that a double patenting rejection in such a situation is improper, see MPEP 804.01 and 37 CFR 121. The Examiner is requested to have the rejection approved by the Technology Center Director as called for in MPEP sections 1003 (3) and 804.04. Withdrawal of the rejection is requested.

Page 3 of the Office Action rejects claims 1-8 under 35 U.S.C. § 103 over Foster and Shigihara.

On page 3, the Examiner acknowledges that Foster does not "teach 'an antenna for dynamically changing a directivity characteristic' to a 'maximum'". The Examiner looks to Shigihara for the missing teachings and particularly points to col. 13, lines 1-18. This portion discusses the sixth embodiment in Shigihara. The discussion of the sixth embodiment particularly states:

> In the sixth embodiment, the antenna bearing adjustments is made under the condition that the antenna level and the digital signal quality are indicated as shown in FIG. 5 on the special screen for the antenna bearing adjustment of the TV receiver 5, when in the case of the fifth embodiment, the user specifies the antenna level indication, for example, antenna bearing adjustment mode.
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> In the sixth embodiment, as the flowchart of the antenna bearing adjustment procedure of FIG. 14 indicates, if the antenna bearing adjustment mode is specified to the controlling part 15, the antenna level and the digital signal quality are indicated on the special scrren (step S50), the user first roughly adjusts the antenna bearing while observing the antenna level indication (step S51), confirm whether the digital signal quality is sufficient or not according to the indication of the digital signal quality (step S52), and check if antenna is precisely directed to a digital broadcasting satellite. If the digital signal quality indication is zero (0), the antenna is directed not to a digital broadcasting satellite but to an analog broadcasting satellite. In this case, go to the step S51 and adjust the antenna bearing again. If the digital signal quality shows a certain level, the user can

judge that the antenna is directed to a digital broadcasting satellite.

Next, the antenna bearing is adjusted by finding out the peak of the input level while observing the antenna level indication (step S53).

The sixth embodiment uses features of both the error rate as a criteria of the digital signal quality and the antenna level by the AGC voltage. That is, the former is high in precision but narrow in the measurement range for the input field strength to indicate exponential characteristics, and the latter is low in precision but broad in the measurement range for the input field strength. FIG. 17 shows the change characteristics of the error rate and the AGC voltage for the input field strength. As clearly seen in FIG. 17, the change area, namely, the measurement range of the error rate for the change of the input field strength is narrow as indicated by the domain B. On the other hand, the change range of the AGC voltage for the change of the input field strength is broad as indicated by the domains A and C including the domain B.

The seventh embodiment is an improved sixth embodiment. As the flowchart of the antenna bearing adjustment of FIG. 15 indicates, if the antenna bearing adjustment mode is specified to the controlling part 15, the controlling part 15 controls so that the digital signal quality based on the error rate is indicated on the indicator 18 or the TV receiver 5 (step S60). The user, as described in the second embodiment, for example, adjusts the antenna bearing so that the necessary video and audio qualities may be obtained (step S61). (Concretely, when the digital signal quality is normally indicated without flashing). Then the controlling part 15 controls so that the antenna level based on the AGC voltage is indicated on the indicator 18 or the screen of the TV receiver 5 (step S62). Afterwards, the user adjusts the antenna bearing by finding out the peak of the input level with reference to the antenna level indication (step S63).

When this adjustment procedure is used, it becomes difficult to make a coarse adjustment. However, it becomes possible to adjust the antenna bearing after confirming that the antenna is directed to an digital broadcasting satellite by the digital signal quality indication. If the user directs the antenna to a digital broadcasting satellite according to the digital signal quality indication, a smooth antenna bearing adjustment can be made without being disturbed by radio waves of analog broadcasting satellites.

(See Shigihara, col. 12, line 49-col.13, line 48)

As can be seen from the above text, there is no discussion of adjusting a radiating directivity characteristic of an antenna on a hemispherical plane of an antenna plane by changing power feeding phase as called for in the claims. This adjustment is discussed in the present application, for example, in application paragraph 46.

It is submitted that the independent claims distinguishes over the prior art and withdrawal of the rejection is requested.

The dependent claims depend from the above-discussed independent claims and are

patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the prior art. For example, claim 4 emphasizes that the antenna is an "active phased planar-array antenna" and claim 5 emphasizes that the "transmitting power" when the control frame is transmitted is "less than the transmitting power", for "a normal data frame". The prior art does not teach or suggest such features. It is submitted that the dependent claims are independently patentable over the prior art.

New claims 9 and 10 also emphasize the phase change for adjusting receiver directivity. Nothing in the prior art teaches or suggests such. It is submitted that these new claims, which are different and not narrower than prior filed claims, distinguish over the prior art.

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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